

WHAT IS CLAIMED IS:

1. A communications system comprising:  
a wireless hub for interfacing with a network; and  
an integrated Wireless Digital Subscriber Line Access Multiplexer (WDSLAM) adapted to communicate wireless data between said wireless hub and said WDSLAM via a wireless link, wherein said wireless hub has a direct access to queue utilization levels within said WDSLAM.
2. The communication system of claim 1, wherein said wireless data further comprises a Code Division Multiple Access (CDMA) signal.
3. The communication system of claim 1, wherein said wireless data further comprises a Time Division Multiple Access (TDMA) signal.
4. The communication system of claim 1, wherein said wireless data further comprises a cellular signal.
5. The communication system of claim 1, wherein said queue utilization levels further comprises Asynchronous Transfer Mode (ATM) queue utilization levels.
6. The communication system of claim 1, wherein said queue utilization levels further comprises internet Protocol (IP) queue utilization levels.

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7. The communication system of claim 1, wherein said wireless hub and WDSLAM have a single feature set.

8. The communication system of claim 7, wherein said single feature set comprises an ATM feature set.

9. The communication system of claim 7, wherein said single feature set comprises an Internet Protocol (IP) feature set.

10. The communication system of claim 1, wherein said wireless hub has access to the queue utilization levels on a per line Digital Subscriber Line (DSL) basis.

11. The communication system of claim 1, wherein each queue is assigned a Quality of Service (QOS) class having a priority level.

12. The communication system of claim 1, wherein said wireless hub allocates bandwidth between said wireless hub and at least one WDSLAM based on at least one of:

a quality of service (QOS) class for pre-assigning a priority and quality level to data;

a Service Level Agreement (SLA) for determining bandwidth guarantees between a user and a service provider; and

the queue utilization levels for determining queues that are at capacity.

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13. The communication system of claim 1, wherein said network includes an Asynchronous Transfer Mode (ATM) network.

14. The communication system of claim 1, wherein said network includes an Internet Protocol (IP) network.

15. The communication system of claim 1, wherein said interface is made via a digital carrier.

16. The communication system of claim 15, wherein said digital carrier comprises at least one of:

- a Digital Signal Level 1 (DS1);
- a Digital Signal Level 2 (DS2); and
- a Digital Signal Level 3 (DS3).

17. The communication system of claim 1, wherein said interface is made via an optical carrier.

18. The communication system of claim 17, wherein said optical carrier comprises at least one of:

- an Optical Carrier Level 1 (OC-1);
- an Optical Carrier Level 3 (OC-3);
- an Optical Carrier Level 12 (OC-12);
- an Optical Carrier Level 48 (OC-48);
- an Optical Carrier Level 96 (OC-96); and
- an Optical Carrier Level 192 (OC-192).

19. A method for communicating in a communication system comprising:

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transmitting from an integrated wireless Digital Subscriber Line Multiplexer (WDSLAM), a wireless signal, said wireless signal including status information of queue utilization levels within said WDSLAM;

receiving said wireless signal, at a wireless hub;

selectively allocating bandwidth to said integrated WDSLAM in response to the queue utilization level of said WDSLAM.

20. The method of claim 19, wherein said step of selectively allocating bandwidth comprises determining queue utilization levels on a per line Digital Subscriber Line (DSL) basis.

21. The method of claim 19, wherein said status information comprises bandwidth guarantees for data associated with a user.

22. The method of claim 19, further comprising:  
allocating bandwidth in a weighted round robin manner among WDSLAMs in response to determining data in queues awaiting transport to said wireless hub for said WDSLAMs have the same priority level.

23. The method of claim 19, further comprising:  
allocating bandwidth in a manner determinative of the WDSLAM having the highest queue priority level.

24. The method of claim 19, wherein the greatest amount of bandwidth is assigned to the WDSLAM having queues with the highest priority and utilization level.

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25. The method of claim 19, wherein said wireless signal further comprises a Code Division Multiple Access (CDMA) signal.

26. The method of claim 19, wherein said wireless signal further comprises a Time Division Multiple Access (TDMA) signal.

27. The method of claim 19, wherein said wireless signal further comprises a cellular signal.

28. The method of claim 19, wherein said queue utilization levels further comprises Asynchronous Transfer Mode (ATM) queue utilization levels.

29. The method of claim 19, wherein said queue utilization levels further comprises internet Protocol (IP) queue utilization levels.

30. The method of claim 19, wherein said wireless hub and WDSLAM have a single feature set.

31. The method of claim 30, wherein said single feature set comprises an ATM feature set.

32. The method of claim 30, wherein said single feature set comprises an Internet Protocol (IP) feature set.

33. The method of claim 19, wherein said wireless hub has access to the queue utilization levels on a per line Digital Subscriber Line (DSL) basis.

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34. An apparatus for communicating in a communications system, said apparatus comprising:

an integrated wireless Digital Subscriber Line Multiplexer (WDSLAM) having an interface card for interfacing with a digital landline network and a wireless network, said interface card including:

a channel and conference module (CCM) adapted to converting a digital signal to a wireless signal;

a service specific interface field programmable gate array (SSI-FPGA) module coupled to the CCM for providing a timed digital signal to said CCM; and

a processor coupled to the SSI-FPGA for monitoring queue utilization levels and informing a wireless hub of said status information.

35. The apparatus of claim 34 further comprising:

Digital Subscriber Line (DSL) drivers coupled to said processor for serving as an interface between said interface card and at least one subscriber.

36. The apparatus of claim 35, wherein said digital signal includes an Asynchronous Transport Medium (ATM) signal.

37. The apparatus of claim 36, further comprising:

an ATM chip set for storing ATM information in accordance with ATM Standards Traffic Management 4.0.

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38. The apparatus of claim 37, wherein said processor includes a control processor for providing ATM status information to a wireless hub.

39. The apparatus of claim 35, wherein a backplane couples the CCM and the SSI-FPGA.

40. The apparatus of claim 39, wherein the backplane includes a Service Specific Interface (SSI) bus.

41. The apparatus of claim 38, wherein a Utopia-2 bus couples said ATM chipset, SSI-FPGA, control processor and octal line drivers.

42. The apparatus of claim 34, wherein said wireless signal further comprises a Code Division Multiple Access (CDMA) signal.

43. The apparatus of claim 34, wherein said wireless signal further comprises a Time Division Multiple Access (TDMA) signal.

44. The apparatus of claim 34, wherein said wireless signal further comprises a cellular signal.

45. The apparatus of claim 35, wherein said digital signal includes an Internet Protocol (IP) signal.

46. The apparatus of claim 45, wherein said processor includes a communications processor for grouping IP packets based on Quality of Service (QOS) class.

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47. The apparatus of claim 46, wherein said communications processor communicates status information on said IP packets to a wireless hub.

48. The apparatus of claim 47, wherein a Utopia-3 bus couples said SSI-FPGA to said communications processor.

49. The apparatus of claim 48, wherein a plurality of serial buses couples said communications processor to said octal DSL line drivers.

50. An apparatus for communicating wireless information, comprising:

a processor and an associated storage device including instructions for controlling said processor, said instruction, when executed, causing said processor to perform the steps of:

transmitting from an integrated wireless Digital Subscriber Line Multiplexer (WDSLAM), a wireless signal, said wireless signal including status information of queue utilization levels within said WDSLAM;

receiving said wireless signal, at a wireless hub;

selectively allocating bandwidth to said integrated WDSLAM in response to the queue utilization level of said WDSLAM.

51. A method for communicating in a communication system comprising:

receiving data from a modem at an integrated wireless Digital Subscriber Line Multiplexer (WDSLAM);

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assigning said data to pre-assigned queues having associated with said queues priority levels;

determining utilization levels of said queues;

transmitting from the integrated WDSLAM, a wireless signal, said wireless signal including status information of the queue utilization levels within said WDSLAM;

receiving said wireless signal, at a wireless hub;

selectively allocating bandwidth to said integrated WDSLAM in response to the queue utilization level of said WDSLAM; and

communicating wireless data to said WDSLAM based on the priority level of the queues.

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